

# Seeing with Sound



**A long-eared bat** swoops through the night, hunting for insects. It flies through the dark forest, swerving to avoid leaves and branches, then chases after a moth. It's too dark for the bat to see the moth, or any of the hundreds of insects it will catch and eat this night. How does it find its food in the dark? It uses its ears.



As it flies, the bat lets out bursts of high-pitched sounds. If an insect is nearby, the sound waves bounce off it and travel back to the bat. These sound waves create an echo that the bat can hear. By listening to the echoes, the bat can tell how far away the insect is, the direction it's flying, how big it is—even whether it's soft and furry!



*The ridges on this bat's ears, and the flap in front of its ears, help it to tell where sounds are coming from.*

The sounds are too high for human ears to hear. But some insects can hear them.

When they do, they can swerve suddenly to avoid being eaten.

Sometimes insects escape, using their sharp ears to hear a bat and their tiny wings to fly away.

